

CLAIMS

What is claimed is:

1. A non-birefringent optical resin material containing a transparent polymer resin caked after flowing and a great number of inorganic fine particles dispersed in said polymer resin;

wherein said inorganic fine particles have an orientation-birefringence by which that of the polymer resin is reinforced if major axis directions of the inorganic fine particles are parallel with an orientation direction of bonding chains of said polymer resin and is cancelled if major axis directions of the inorganic fine particles are perpendicular to the orientation direction of bonding chains of said polymer resin, and

said bonding chains of said polymer resin orientated to an orientation direction corresponding to an external force acted in said flowing, and

said a great number of inorganic fine particles are orientated approximately perpendicular to said orientation direction of said bonding chains, thereby giving a non-birefringence to said optical resin material.

2. A non-birefringent optical resin material in accordance with claim 1, wherein said flowing is caused when a material containing said resin material in a molten state and said great number of inorganic fine particles is injected into a flowing space having a relatively large cross section through an opening having a relatively small cross section.

3. A method of producing a non-birefringent optical resin material containing a transparent polymer resin caked after flowing and a great number of inorganic fine particles dispersed in said polymer resin, wherein said inorganic fine particles have an orientation-birefringence by which that of the polymer resin is reinforced if major axis directions of the inorganic fine particles are parallel with an orientation direction of bonding chains of said polymer resin and

is cancelled if major axis directions of the inorganic fine particles are perpendicular to the orientation direction of bonding chains of said polymer resin, comprising the steps of;

causing a great number of inorganic fine particles to coexist with and dispersed in a transparent polymer resin in a flowing state, thereby orientating said bonding chains of said polymer resin to a direction in correspondence to that of said flowing and orientating said great number of inorganic fine particles to approximately perpendicular to a direction of said flowing; and,

fixing a relation between orientation of bonding chain of said polymer resin and that of said inorganic fine particles through a caking process.

4. A method of production a non-birefringent optical resin material in accordance with claim 3, wherein said flowing state is caused in a flowing space when a material containing said resin material in a molten state and said great number of inorganic fine particles is injected into said flowing space having a relatively large cross section through an opening having a relatively small cross section.